
Service Bulletin – Using Perfect Print™



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- Unit serial number and software version.
- Functional and technical description of the problem.
- Exact error message received.

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Introduction

Use this document to create a calibration disc, align Perfect Print, and add custom text and artwork to preprinted labels.

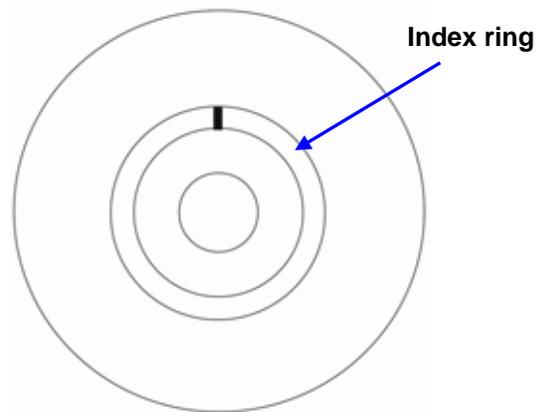
About Perfect Print

- When Perfect Print is enabled through QuickDisc, the gripper on the autoloader uses an index mark to align silk screened and printed images on the disc surface.
- Perfect Print adds about 6 seconds to the print time of each disc.
- The leading edge of the index mark may be placed at any angle (in increments of 0.25°) in the artwork.

Requirements

Index marking

- The index ring must have high reflectivity, either from leaving the disc unscreened in the index ring area or silk screening a white layer.
- Silk screen a single black index mark measuring at least 1.5 mm x 3.4 mm (0.059" x 0.134") on the disc. The index mark can be placed anywhere within the index ring.



Index color

- The index mark color must be black.

Background color

- ⓘ **Important:** Silk screen inks may interfere with thermal printing on the discs.
- Acceptable background ink colors are white, yellow, magenta, or red.
 - 📎 **Note:** Using cyan within the index ring is not recommended. Cyan may cause Perfect Print to align artwork incorrectly.
- Before ordering a large quantity of silk screened discs, run a test with Perfect Print using the artwork with the silk screened disc.
 - 📎 **Note:** Some silk screen inks may not work with Perfect Print due to the way they reflect light.

Positioning accuracy

Silk screen printing systems can typically hold an image-to-disc registration accuracy of ± 0.1 mm (0.004”).

Angular $\pm 1^\circ$

Horizontal (X) ± 0.75 mm (0.03”)

Vertical (Y) ± 0.25 mm (0.01”)

Media

You must use discs that are created specifically for thermal printing.

Artwork placement and type

Proper placement of silk screened artwork on the disc allows the thermal ink from the printer to adhere to the surface of the disc.

 **Note:** Dithered silk screen patterns and some types of silk screen ink do not allow the thermal ink from the printer to adhere to the disc.

Area 1 – provides the easiest way to ensure sufficient print pressure by having an open horizontal band spanning the entire width of the disc without any silk screened objects. The print can directly adhere to the surface of the disc.

Area 2 – is far enough away from the silk screen ink that the print head and ribbon come into contact with the surface of the disc. A distance of 3 mm between silk screened objects and over-print is required.

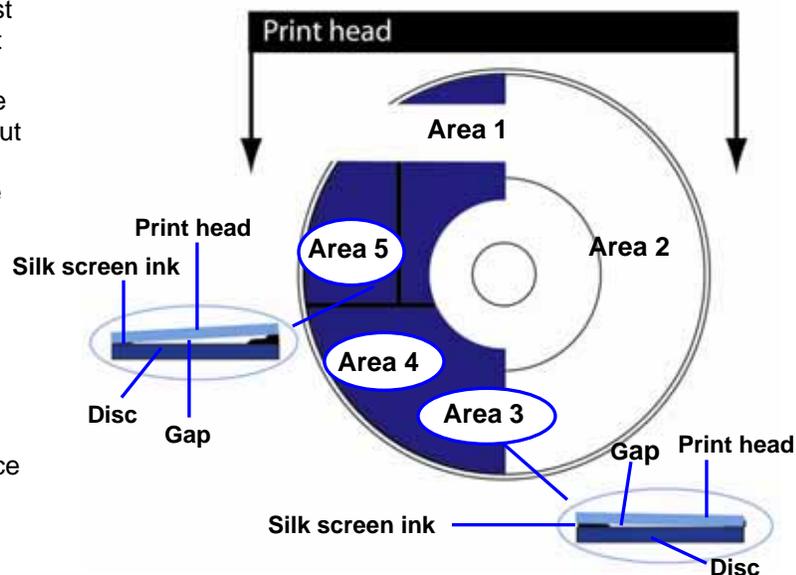
Area 3 – is not ideal because the silk screen ink may lift the print head away from direct contact with the disc. See the diagram to the right of Area 3.

Most silk screen inks do not allow the thermal ink to adhere to it. **Area 4** – prints well if the solid layer of silk screen ink allows the thermal ink to adhere to it.

 **Note:** The silk screen ink must be a solid ink layer, not a dithered pattern.

Area 5 – The solid layer of silk screen ink adds some thickness and the silk screen ink pattern adds another layer of thickness. See the diagram to the left of Area 5.

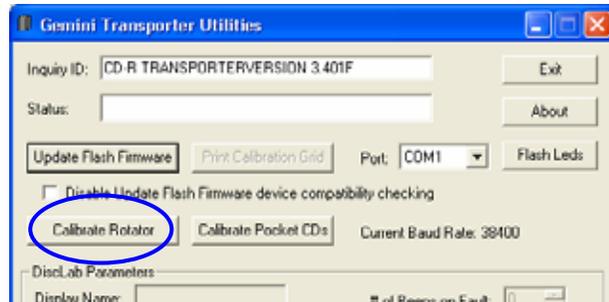
 **Note:** Ink thickness can prevent the print head from providing sufficient pressure over the print areas on the underlying disc surface.



Aligning Perfect Print

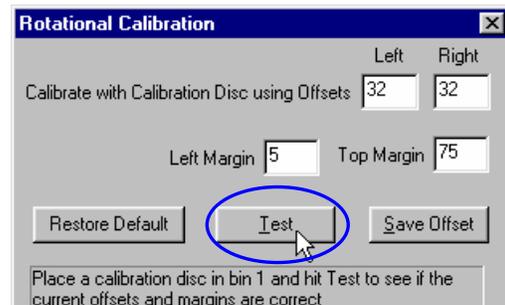
Printing alignment marks

1. If Production Server is running, stop Production Server.
2. To open Gemini Utilities, **Navigate:** Start>Programs>Rimage>Utilities> Gemini Utilities. Gemini Transporter Utilities opens.
3. If you have the Rimage calibration disc (PN 202574-001) place it in bin 1.



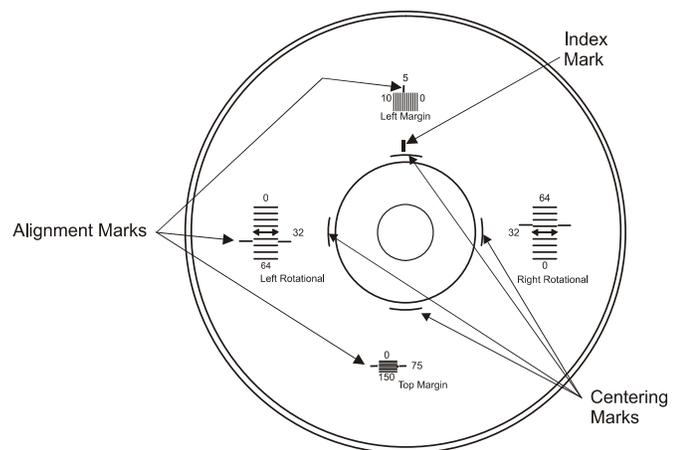
 **Note:** If you do not have the calibration disc, refer to the [Create calibration disc](#) procedure on page 8.

4. In the *Gemini Transporter Utilities* window, select **Calibrate Rotator**.
5. In the *Rotational Calibration* window, select **Test**. The printer prints the alignment marks on the reference grids and the centering marks near the center of the calibration disc.



Reading the grid increments

- The center line on each of the rotational grids is 32. Each line on the rotational grids has a value of 8 (for a total of 64).
 - The center line on the top margin grid is 75. Each line on the top margin grid has a value of 25 (for a total of 150).
 - The center line on the left margin grid is 5. Each line on the left margin grid has a value of 1 (for a total of 10).
6. Examine the rotational grids and the alignment marks to determine the level of adjustment needed.
 - If the alignment marks print at the center line (32) on each side, alignment is not necessary. Continue with the centering adjustment.
 - If the alignment marks do not print at the center line (32) on each side, refer to the [Correcting the alignment](#) procedure on page 6.



Correcting the alignment

 **Tip:** For best results, complete the centering adjustment procedure before completing the rotational adjustment.

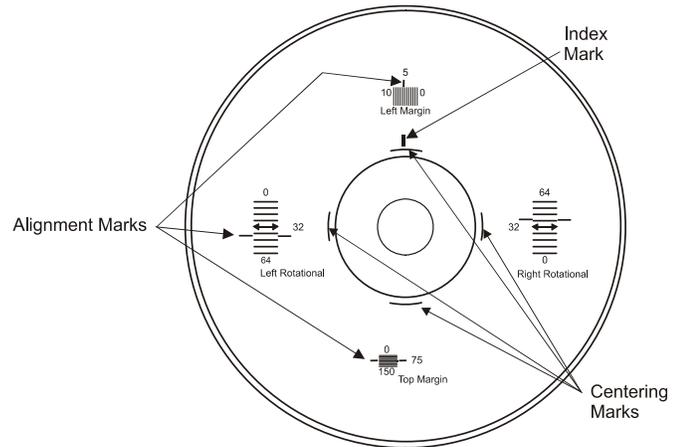
Centering adjustment

1. Examine the four centering marks on the previously printed calibration disc or print new centering marks by selecting **Test** in the *Rotational Calibration* window.

- To correct the Top Margin alignment
 - a. In the *Rotational Calibration* window, enter the value to which the alignment mark is pointing in the **Top Margin** field.
 - b. In the *Rotational Calibration* window select **Test**. New centering marks print on the calibration disc.

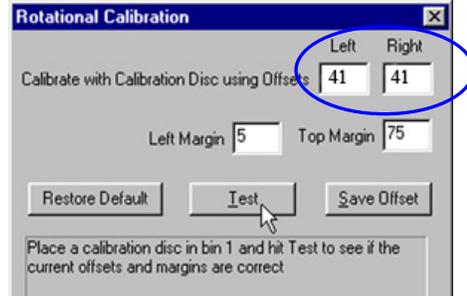
 **Note:** The top margin value can be any value from 0 to 150 in whole number increments.

- c. Repeat steps a – b until the alignment mark prints at the center line (75) of the top margin grid.
- To correct the Left Margin alignment
 - a. In the **Left Margin** field, enter the value to which the alignment mark is pointing.
 - b. Select **Test**. New centering marks print on the calibration disc.
-  **Note:** The left margin value can be any value from 0 to 10 in whole number increments. If the alignment mark is pointing beyond the 0–10 area, enter 0 or 10.
- c. Repeat until the alignment mark prints at the center line (5) of the left margin grid.
2. To save the new settings, select **Save Offset**.
 3. When Perfect Print is calibrated, select **Exit**. The calibration disc is placed in the output bin.



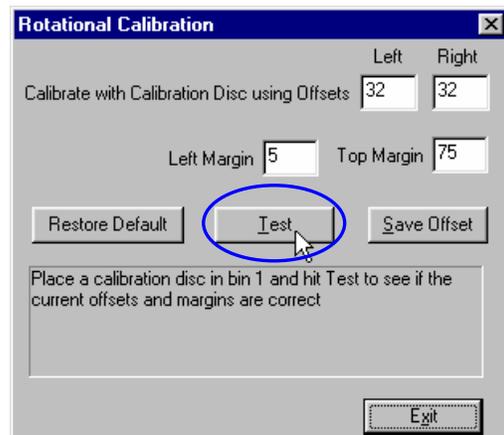
Rotational adjustment

1. Retrieve the **calibration disc** from the output bin.
2. Observe the positions of the **rotational alignment marks**.
3. To adjust, enter the left and right rotational value to which the alignment mark is pointing in the **Left** and **Right** fields.
4. To remove the alignment marks from the calibration disc, wipe the disc using isopropyl alcohol and a soft cloth.
5. Place the calibration disc on the printer tray.



 **Note:** If your autoloader has a front door, ensure that the front door is closed.

6. Select **Test**. The printer prints alignment marks on the calibration disc.
 - If the alignment marks do not align at the center line (32), repeat steps 1–7 until the alignment marks print at the center line (32).
 - If the left and right rotational alignment marks print above, or both sides print below the center marks, refer to the [Centering adjustment procedure](#) on page 6.



7. If the alignment mark prints at the center line (32), the disc is calibrated. In the *Rotational Calibration* window, select **Save Offset**.

Create a calibration disc

ⓘ **Important:** To create a calibration disc, use a printer that is calibrated. If you do not have a second printer, order the Rimage calibration disc (PN 202574-001).

1. To create a calibration disc, place a blank disc in bin 1.
2. In the *Gemini Transporter Utilities* screen, select **Print Calibration Grid**. The printer prints a calibration disc with an index mark, two rotational grids, and the left and top margin grids, as shown.

